



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,446	02/28/2002	Jong Sung Choi	0630-1430P	4983

2292 7590 12/17/2004

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

ROCHE, TRENTON J

ART UNIT	PAPER NUMBER
----------	--------------

2124

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/084,446	<b>Applicant(s)</b> CHOI ET AL.	
	<b>Examiner</b> Trent J Roche	<b>Art Unit</b> 2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>01102003</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is responsive to communications filed 28 February 2002.
2. Claims 1-31 have been examined.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 9, 28 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 9 recites the limitation "the stored software code" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, the claim will be interpreted to read "the software code" for the intention of referring to the software code included in the broadcast signal.

6. Claim 28 recites the limitation "the broadcasting signal" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, the claim will be interpreted to read "the digital advertisement broadcasting signal."

7. Claim 30 recites the limitation "the response of the user" in line 11. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, the claim will be interpreted to read "a response from a user."

*Claim Rejections - 35 USC § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3, 5, 6, 8, 9, 11, 13-20, 22, 24-26, 30 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,666,293 to Metz et al., hereafter referred to as Metz.

**Per claim 1:**

Metz discloses:

- an apparatus for upgrading a software (“a particular set-top terminal to upgrade its operating system” in col. 5 lines 40-41)
- a version comparing unit for comparing a version of a software code included in a broadcasting signal and a version of a previously installed software code to determine a newer version (“The set-top terminal stores a version number for the operating system that it currently is running, and the broadcast data stream will include data identifying the version number of the operating system being broadcast...” in col. 5 lines 42-46)
- an upgrade processing unit for installing the software by abstracting software data in the software code if the version of the software code is a newer version (“The set-top terminal actually captures an operating system from the broadcast if the broadcast version number is different (eg. higher or lower) than the number of the version that terminal is currently running” in col. 5 lines 47-50)

substantially as claimed.

Art Unit: 2124

**Per claim 2:**

The rejection of claim 1 is incorporated, and further, Metz discloses a data of an upgraded system software as claimed (“operating system upgrade...” in col. 5 lines 51-52)

**Per claim 3:**

The rejection of claim 1 is incorporated, and further, Metz discloses an apparatus for receiving digital broadcasting as claimed (Note Figure 1 and the corresponding sections of the disclosure)

**Per claim 5:**

The rejection of claim 1 is incorporated, and further, Metz discloses the software being an upgraded software as claimed (“operating system upgrade...” in col. 5 lines 51-52)

**Per claim 6:**

The rejection of claim 1 is incorporated, and further, Metz discloses a code detecting unit for detecting whether the software code is inserted in the broadcasting signal as claimed (Note Figure 1, item 102 and the corresponding sections of the disclosure.)

**Per claim 8:**

The rejection of claim 1 is incorporated, and further, Metz discloses a storage unit for storing the software code as claimed (“stores that new version in RAM” in col. 10 lines 3-4)

**Per claim 9:**

Art Unit: 2124

The rejection of claim 1 is incorporated, and further, Metz discloses an error detecting unit for determining whether an error exists in the software code as claimed (“checks and confirms that the extracted and stored version is error free” in col. 10 lines 5-6)

**Per claim 11:**

Metz discloses:

- a method of upgrading a software (“a particular set-top terminal to upgrade its operating system” in col. 5 lines 40-41)
- receiving a broadcasting signal in which a user data containing a software code is inserted (“The set-top terminal stores a version number for the operating system that it currently is running, and the broadcast data stream will include data identifying the version number of the operating system being broadcast...” in col. 5 lines 42-46)
- installing the software by abstracting software data from the software code (“the DET extracts the broadcast operating system from the transport stream...the microprocessor transfers the version of the operating system from RAM to non-volatile memory, effectively writing the new version over the old version...” in col. 10 lines 1-9)

substantially as claimed.

**Per claim 13:**

The rejection of claim 11 is incorporated, and further, Metz discloses an apparatus for receiving digital broadcasting as claimed (Note Figure 1 and the corresponding sections of the disclosure.)

**Per claim 14:**

Art Unit: 2124

The rejection of claim 11 is incorporated, and further, Metz discloses checking whether the software code corresponds to a model of the receiving apparatus is received (“Each type of set-top terminal will identify the correct operating system from among the plurality broadcast and capture only that operating system” in col. 5 lines 35-37) and checking whether an error exists when the broadcasting signal is received as claimed (“checks and confirms that the extracted and stored version is error free” in col. 10 lines 5-6)

**Per claim 15:**

The rejection of claim 11 is incorporated, and further, Metz discloses comparing a version of the software code and a version of the code of a previously installed software to determine a newer version as claimed (“if the version number for the operating system broadcast on the network differs from the version number of the operating system currently running...” in col. 9 lines 65-67)

**Per claim 16:**

The rejection of claim 11 is incorporated, and further, Metz discloses deleting the received software code in case a version of the software code is not a new version (“the DET terminates the upgrade process” in col. 9 lines 63-64) and checking whether the software will be upgraded in case the version is a new version as claimed (“if the version number for the operating system broadcast on the network differs from the version number of the operating system currently running...then the DET proceeds with the upgrade...” in col. 9 lines 65 to col. 10 line 1)

**Per claim 17:**

Art Unit: 2124

The rejection of claim 11 is incorporated, and further, Metz discloses the software being deleted or installed according to a response of a user as claimed (“the user may execute a specified sequence...” in col. 9 lines 24-25)

**Per claim 18:**

The rejection of claim 11 is incorporated, and further, Metz discloses the user data including a header block and a payload block as claimed (Note Figure 5B and the corresponding sections of the disclosure.)

**Per claim 19:**

The rejection of claim 18 is incorporated, and further, Metz discloses the header block and payload block being in packet form as claimed (Note Figure 5B and the corresponding sections of the disclosure.)

**Per claim 20:**

The rejection of claim 18 is incorporated, and further, Metz discloses the header block comprising an applied receiver description code block, a version number block, a current packet number block, a last packet number block, a status flag block, a payload length block, and a software version information block as claimed (Note Figures 3 and 4 and the corresponding sections of the disclosure.)

**Per claim 22:**

Metz discloses



Art Unit: 2124

- a method for upgrading a software, comprising transmitting user data including a header block containing basic index information on software and a payload block containing a software code by inserting it in the broadcast signal (Note at least Figures 1, 3 and 4 and the corresponding sections of the disclosure.)

**Per claim 24:**

The rejection of claim 22 is incorporated, and further, note the rejection regarding claim 2.

**Per claim 25:**

The rejection of claim 22 is incorporated, and further, Metz discloses the header block and payload block being in a packet form as claimed (Note Figure 3 and the corresponding sections of the disclosure.)

**Per claim 26:**

The rejection of claim 22 is incorporated, and further, note the rejection regarding claim 20.

**Per claim 30:**

Metz discloses:

- a method for upgrading a software (“a particular set-top terminal to upgrade its operating system” in col. 5 lines 40-41)
- checking whether a software code corresponds to a model of the receiving apparatus or an error exists when a broadcasting signal in which the software code is inserted is received (“Each type of set-top terminal will identify the correct operating system from among the

Art Unit: 2124

plurality broadcast and capture only that operating system” in col. 5 lines 35-37. Further,

“checks and confirms that the extracted and stored version is error free” in col. 10 lines 5-6)

- comparing a version of a software code and a version of a previously installed software code to determine a newer version (“The set-top terminal stores a version number for the operating system that it currently is running, and the broadcast data stream will include data identifying the version number of the operating system being broadcast...” in col. 5 lines 42-46)
- deleting the code of the received software in case the code version of the software is not a new version and checking whether the software will be upgraded in case the version is a new version (“the DET terminates the upgrade process” in col. 9 lines 63-64. Further, “if the version number for the operating system broadcast on the network differs from the version number of the operating system currently running...then the DET proceeds with the upgrade...” in col. 9 lines 65 to col. 10 line 1)
- installing the software included in the code of the system software according to a response from a user (“the user may execute a specified sequence...” in col. 9 lines 24-25)

substantially as claimed.

**Per claim 31:**

The rejection of claim 30 is incorporated, and further, note the rejection of claim 2.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2124

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 4, 7, 10, 12, 21, 23 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,666,293 to Metz et al., hereafter referred to as Metz, in view of U.S. Patent 6,473,858 to Shimomura et al., hereafter referred to as Shimomura.

**Per claim 4:**

The rejection of claim 1 is incorporated, and further, Metz discloses software code being included in a broadcasting signal. Metz does not explicitly disclose the broadcasting signal being an advertisement broadcasting signal. Shimomura discloses in an analogous digital broadcasting system that the ability to broadcast advertisement broadcasting signals was well known in the art (“advertisements...may be broadcast by the data broadcast facility...” in col. 4 lines 43-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to distribute advertisement signals in digital broadcasts, as this would enable an entity to broadcast advertisement information to a plurality of customers or users, thereby generating interest and profit in the advertised item.

**Per claim 7:**

The rejection of claim 1 is incorporated, and further, Metz discloses a mode setting unit for setting a download-possible mode by determining whether the code of the system software can be downloaded when a broadcasting signal in which the software code is inserted is received as claimed (“Using the relevant PID value from the network table packet, the MPEG demux recognizes and

Art Unit: 2124

captures the packets containing the operating system data file for the particular type of set-top..." in col. 37 lines 2-5.). Metz does not explicitly disclose the broadcasting signal being an advertisement broadcasting signal. Shimomura discloses in an analogous digital broadcasting system that the ability to broadcast advertisement broadcasting signals was well known in the art ("advertisements...may be broadcast by the data broadcast facility..." in col. 4 lines 43-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to distribute advertisement signals in digital broadcasts, as this would enable an entity to broadcast advertisement information to a plurality of customers or users, thereby generating interest and profit in the advertised item.

**Per claim 10:**

The rejection of claim 1 is incorporated, and further, Metz discloses software code being included in a broadcasting signal. Metz does not explicitly disclose the broadcasting signal being an advertisement broadcasting signal. Shimomura discloses in an analogous digital broadcasting system that the ability to broadcast advertisement broadcasting signals corresponding to an advertisement of a certain company was well known in the art ("advertisements...may be broadcast by the data broadcast facility..." in col. 4 lines 43-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to distribute advertisement signals in digital broadcasts, as this would enable an entity to broadcast advertisement information to a plurality of customers or users, thereby generating interest and profit in the advertised item.

**Per claim 12:**

The rejection of claim 11 is incorporated, and further, note the rejection regarding claim 4.

Art Unit: 2124

**Per claim 21:**

The rejection of claim 18 is incorporated, and further, Metz discloses a software code unit and an error check block as claimed (“If the demultiplexer has captured five cells, the demultiplexer pulls out the payload data and uses the CRC data to check for errors” in col. 16 lines 7-9). Metz does not explicitly disclose correcting the error. Shimomura discloses in an analogous digital broadcasting system the ability to received packets and correct errors (“The MPEG-2 frame reassemble places the frames into a defined order such that a forward error correcting code may be used to check for errors and correct detected errors” in col. 13 line 65 to col. 14 line 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the error correcting ability of Shimomura with the digital broadcasting system of Metz, as the system disclosed by Metz would then be able to possibly fix errors detected by its CRC check without required a costly re-transmission of data.

**Per claim 23:**

The rejection of claim 22 is incorporated, and further, note the rejection regarding claim 4.

**Per claim 27:**

The rejection of claim 22 is incorporated, and further, note the rejection regarding claim 21.

**Per claim 28:**

Metz discloses:

- an apparatus for upgrading a software (“a particular set-top terminal to upgrade its operating system” in col. 5 lines 40-41)

Art Unit: 2124

- a code detecting unit for receiving a digital broadcasting signal and detecting whether the software code is inserted in the broadcasting signal (Note Figure 1, item 102 and the corresponding sections of the disclosure.)
- a mode setting unit for setting a download-possible mode by determining whether the system software code can be downloaded (“Using the relevant PID value from the network table packet, the MPEG demux recognizes and captures the packets containing the operating system data file for the particular type of set-top...” in col. 37 lines 2-5.)
- a storage unit for downloading and storing the code of the system software in case of the download-possible mode (“stores that new version in RAM” in col. 10 lines 3-4)
- an error detecting unit for determining whether an error exists in the stored code of the system software (“checks and confirms that the extracted and stored version is error free” in col. 10 lines 5-6)
- a version comparing unit for comparing a version of the code of the downloaded software and a version of the code of a previously installed software to determine a newer version (“The set-top terminal stores a version number for the operating system that it currently is running, and the broadcast data stream will include data identifying the version number of the operating system being broadcast...” in col. 5 lines 42-46)
- an upgrade processing unit for installing the software included in the software code by abstracting software data in the software code in case the code of the stored software is a new version without errors (“The set-top terminal actually captures an operating system from the broadcast if the broadcast version number is different (eg. higher or lower) than the number of the version that terminal is currently running” in col. 5 lines 47-50)

Art Unit: 2124

substantially as claimed. Metz does not explicitly disclose the broadcasting signal being an advertisement broadcasting signal. Shimomura discloses in an analogous digital broadcasting system that the ability to broadcast advertisement broadcasting signals was well known in the art ("advertisements...may be broadcast by the data broadcast facility..." in col. 4 lines 43-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to distribute advertisement signals in digital broadcasts, as this would enable an entity to broadcast advertisement information to a plurality of customers or users, thereby generating interest and profit in the advertised item.

**Per claim 29:**

The rejection of claim 28 is incorporated, and further, note the rejection regarding claim 2.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **U.S. Patent 6,470,496 to Kato et al. discloses a system for downloading software updates via digital broadcasting signals.**

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trent J Roche whose telephone number is (571)272-3733. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:30 pm.

Art Unit: 2124

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571)272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Trent J Roche  
Examiner  
Art Unit 2124

TJR

*Kakali Chaki*  
KAKALI CHAKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100